



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/737,596	12/18/2000	Neil McLoughlin	LIT V-884-DIV	1690

7590 12/05/2001

L. Lawton Rogers, III
Suite 300
1401 Eye Street, N.W.
Washington, DC 20005

EXAMINER

EASTHOM, KARL D

ART UNIT	PAPER NUMBER
----------	--------------

2832

DATE MAILED: 12/05/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/737,596

Applicant(s)
McLoughlin

Examiner
Karl Easthom

Art Unit
2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 17, 2001
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-41 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

Art Unit: 2832

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 36 is rejected under 35 U.S.C. 102(b) as being anticipated by Ravindranathan.

Ravindranathan discloses the claimed invention at Fig. 1 as prior art where nickel plating barrier caps 18 are disclosed at col. 1. The device is “free of passivation” material and “terminating with naturally formed edges” since at col. 1, lines 28-47, after the plating is removed, the device is without any outside coating, and the edges occur “naturally” as a result of the removal of the material therebetween.

3. Claims 36-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Chan ‘443.

Chan discloses the claimed invention at Fig. 12. The device is “free of passivation material” after the temporary masks are removed, with terminations as described at col. 9, lines 1-25 (nickel barrier and tin). See col. 1 also for the typical terminations of a multilayer varistor. Col. 9, lines 40-47 also discloses the method for multilayer varistors. In claim 38, the thickness of the barrier layer is disclosed as 2um at col. 9.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Utsumi et al. or Taira et al. in view of Sano et al. or Cobb. Utsumi discloses the claimed invention at Fig.

4b, col. 7, lines 4-30 with silver paste electrodes 40, 41, except the nickel barrier and thickness thereof. Similarly, Tairi discloses the claimed invention at Fig. 1 with silver paste 21 or 22 at col. 5, lines 44-57 with multiple layers disclosed and a nickel layer as one of the multiple layers. It is not clear if the masking layer of Tairi is removed. However, as admitted, at page 2, lines 8-12, the mask, or temporary plating resist, is typically removed since it is temporary, and it would have been obvious to remove same since masking layers are typically temporary. Alternatively, Cobb at col. 2 lines 22-45 provides dipping without masking and providing the barrier layers of nickel 54 to protect the silver electrodes during soldering. Similarly, Sano et al. at col. 1, lines 30-45, discloses such a barrier layer 7 for protecting silver end terminations during a typical subsequent solder operation. Hence, it would have been obvious to provide a nickel barrier by dipping to protect the silver electrodes of Utsumi or Taira with the claimed thickness of nickel to avoid leaching of the solder or damage thereby. The limitations of claim 41 are disclosed at col. 4, lines 48-60 of Taira et al. As to claim 40, or claims 39-40, silver with tin and nickel barriers is disclosed at col. 4, lines 45-58 of Sano, or as noted at Cobb, as a typical soldering set up for multi layer chip components, and it would have been obvious to employ same since the devices are ultimately known to be soldered to a board, as they are chip devices. As to the thickness, such a thickness would have been obvious as necessary to ensure there are no pinholes and to ensure no leaching. For further motivation, it is well known in the art that the capacitors and varistor materials can employ the same termination, the Examiner taking Official Notice thereto and citing Chan '838, or Chan '443 at cols. 1, 9, or 10, respectively.

6. Applicant's arguments filed 9/17/01 have been fully considered but they are not persuasive. Applicant argues that Ravindranthan discloses a passivation layer. This is not correct

Art Unit: 2832

for reasons noted above - Fig. 1 - Prior Art does not disclose such material. It is not clear why the terminations are not "naturally formed". All processes involved here are man made. As to the secondary teachings not disclosing varistors, the teachings apply to all chip components that require soldering, especially multilayer devices involved here in the claims and art. Taira discloses nickel plating for a multilayer device, Sano does too. Both devices must be soldered to a circuit since they are chips. Sano solves a specific problem with soldering due to leaching and teaches "it has long been recognized that when soldered to a noble metal, such as silver [the problem of] solder leaching occurs", col. 1, lines 30-45. This is not limited to capacitors, but to any device with silver and nickel, such as that of the prior art varistors. Chan '443 or '838 at cols. 1, or 9, and 10, respectively, disclose specifically that Utsumi type devices use capacitor termination methods as is well known in the art. As to the thickness, such a thickness is necessary to ensure there is no leaching - as Chan teaches and the Examiner noted.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


Art Unit: 2832

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D Easthom whose telephone number is 703 308-3306. The examiner can normally be reached on M-Th, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Gellner can be reached on 703 308-1721. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308-7722 for regular communications and 703 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0956.


Karl D Easthom
Primary Examiner
Art Unit 2832

KDE
November 28, 2001